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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ELMORE, REBA I

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/986,548

Applicant(s)

MARGERIE ET AL.

Examiner

Reba I. Elmore

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-24 are presented for examination.

Drawings

2. Suitable meaningful legends (not ambiguous labels or initials) are required for the unlabeled or inadequately labeled drawing elements of Figures 1, and 3-8 (see MPEP 37 CRF 1.84 (g)).

Specification

3. The disclosure is objected to because of the following informalities: the summary of the invention should not be a copy of the claims.

Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

35 USC 112, 2nd Paragraph

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 5 recites the limitation "said secondary storage device" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. A storage consumer, primary storage device and a remote storage device have been previously claimed, however, it is not clear as to which storage device the said secondary storage device refers.

35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Cornelius et al.

9. Cornelius teaches the invention (claim 1) as claimed including a mirrored storage system for transcribing data from a storage consumer, the system comprising:

a primary site and a remote site (e.g., see Figure 2 and paragraphs 0032 to 0034);

a communications link coupling the primary site to the remote site with the primary site having an input coupled to the storage consumer for receiving data from the storage consumer with the primary site having a primary controller and a primary storage device with the controller further writing the data received from the storage consumer to the primary storage device and the remote site using the communication link as the system having a primary systems, a base communication system with a base communication interface, a user interface having a managing

communication interface as well as a remote data processing system (e.g., see Figures 1-2 and paragraphs 0021 to 0054);

the remote site having a remote controller and a remote storage device with the remote controller coupled to the communication link for receiving data from the primary controller to the remote storage device (e.g., see Figure 2 and paragraphs 0032-0034); and,

the communication link having a plurality of redundant communication paths for the primary controller to transmit a copy of the data received from the storage consumer using the redundant communication paths the ability to transmit data using different protocols dependent upon the different types of networks (e.g., see paragraphs 0045 to 0046).

As to claim 2, Cornelius teaches the primary controller generates a data transfer acknowledgement for the storage consumer after transmitting the received data to the primary storage device as confirmation data (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 3, Cornelius teaches the remote controller generates a transaction report for the primary storage device after receiving the data transmitted by the primary controller (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 4, Cornelius teaches the primary site includes a temporary storage device for writing the data received from the storage consumer to the temporary storage device (e.g., see Figure 2).

As to claim 5, Cornelius teaches the secondary device includes a permanent storage device (e.g., see Figure 2).

As to claim 6, Cornelius teaches the remote controller reconciles the copies of data transmitted by the primary control and detect errors in any of the copies of data in response to a

detecting an error issuing an error message for the primary controller (e.g., see Figure 6 and paragraphs 0073 to 0081).

As to claim 7, Cornelius teaches the primary controller retransmits the data to the remote site in response to the error message (e.g., see Figure 6 and paragraphs 0073 to 0081).

As to claim 8, Cornelius teaches the primary controller generates a data transfer acknowledgement for the storage consumer after transmitting the received data in the primary storage device (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 9, Cornelius teaches the communication link has a first communication path and a second communication path with the primary communication path being independent of the second communication path (e.g., see Figures 1-2 and paragraphs 0021 to 0054)

As to claim 10, Cornelius teaches the first communication path is oriented in direction opposite to the second communication path (e.g., see Figures 1-2 and paragraphs 0021 to 0054)

10. Cornelius teaches the invention (claim 11) as claimed including a method for writing data from a storage consumer in a mirrored storage system, the method comprising:

providing a primary site and a secondary site with the primary site have a controller and a primary storage device and the secondary site having a controller and a secondary storage device and coupling the primary site and the secondary site with a communication link which has a plurality of redundant communication paths as the system having a primary systems, a base communication system with a base communication interface, a user interface having a managing communication interface as well as a remote data processing system (e.g., see Figures 1-2 and paragraphs 0021 to 0054);

receiving data from the storage consumer at the primary site and writing the received data to the primary storage device (e.g., see Figures 1-2 and paragraphs 0021 to 0054);

transmitting a copy of the received data on each of the redundant communication paths to the secondary site (e.g., see Figures 1-2 and paragraphs 0021 to 0054); and,

receiving the transmitted copies of the data at the secondary site and writing the data to the secondary storage device (e.g., see Figures 1-2 and paragraphs 0021 to 0054).

As to claim 12, Cornelius teaches generating a data transfer acknowledgement for the storage consumer after writing the received data to the primary storage device as confirmation data (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 13, Cornelius teaches receiving the transmitted copies of the data at the secondary site includes reconciling the copies of the data and issuing an error report for the controller and the primary site if an error is detected in the data (e.g., see Figure 6 and paragraphs 0073 to 0081).

As to claim 14, Cornelius teaches generating a transaction report for the controller at the primary site after receiving the data at the secondary site (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 15, Cornelius teaches receiving the transmitted copies of the data at the secondary site includes reconciling the copies of the data and issuing an error message in the transaction report if an error is detected in the data (e.g., see Figure 6 and paragraphs 0073 to 0081).

As to claim 16, Cornelius teaches the invention further includes retransmitting the data from the primary site in response to a transaction report having an error message (e.g., see Figure 6 and paragraphs 0073 to 0081).

As to claim 17, Cornelius teaches reconciling includes checking each of the copies of data for errors and voting for the copy of data to be written to the secondary storage device (e.g., see Figure 6 and paragraphs 0073 to 0081).

11. Cornelius teaches the invention (claim 18) as claimed including a remote primary storage system for storing data from a storage consumer, the system comprising:

a primary sit and a remote site (e.g., see Figure 2 and paragraphs 0032 to 0034);

a communication link coupling the primary site to the secondary site (e.g., see Figure 2 and paragraphs 0032 to 0034);

the primary site having an input coupled to the storage consumer for receiving data from the storage consumer with the primary site including a primary controller and a temporary storage device for writing the data received from the storage consumer to the temporary storage device with the primary controller transmitting data to the remote site using the communication link as the system having a primary systems, a base communication system with a base communication interface, a user interface having a managing communication interface as well as a remote data processing system (e.g., see Figure 4 and paragraphs 0063-0064);

the remote site having a remote controller and a storage device with the remote controller coupled to the communication link for receiving data transmitted by the primary controller and writing the received data to the storage device (e.g., see Figure 4 and paragraphs 0063-0064); and,

the communication link having a plurality of redundant communication paths with the primary controller for transmitting a copy of the data received from the storage consumer on each of the redundant communication paths (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 19, Cornelius teaches the primary controller generates a data transfer acknowledgement for the storage consumer after writing the received data to the primary storage device (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 20, Cornelius teaches the secondary controller for generating a transaction report for the primary storage controller after receiving the data transmitted by the primary controller (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 21, Cornelius teaches the primary site includes a temporary storage device with the primary controller for writing the data received from the storage consumer to the temporary storage device (e.g., see Figure 4 and paragraphs 0063-0064).

12. Cornelius teaches the invention (claim 22) as claimed including a multiple mirrored storage system for writing data from a storage consumer, the system comprising:

a primary site, a first remote site and a second remote site (e.g., see Figure 2 and paragraphs 0032 to 0034);

a first communication link coupling the primary site to the first remote site (e.g., see Figure 2 and paragraphs 0032 to 0034);

a second communication link coupling the primary site to the second remote site (e.g., see Figure 2 and paragraphs 0032 to 0034);

the primary site having an input coupled to the storage consumer for receiving data from the storage consumer with the primary site including a primary controller and a primary storage device with the controller writing the data received from the storage consumer to the primary storage device and the controller transmitting data to the first remote site using the first communication link and the second remote site using the second communication site as the system having a primary systems, a base communication system with a base communication

interface, a user interface having a managing communication interface as well as a remote data processing system (e.g., see Figure 4 and paragraphs 0063-0064);

the first remote site having a controller and a storage device with the controller coupled to the first communication link and the controller receiving data transmitted by the primary controller over the first communication link and writing the received data to the storage device (e.g., see Figure 4 and paragraphs 0063-0064);

the second remote site having a controller and a storage device with the controller coupled to the second communication link for receiving data transmitted by the primary controller over the communication link and writing the received data to the storage device (e.g., see Figure 4 and paragraphs 0063-0064); and,

the communication links having a plurality of redundant communication paths with the primary controller transmitting a copy of the data received from the storage consumer on each of the redundant communication paths (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 23, Cornelius teaches the primary controller generating a data transfer acknowledgement for the storage consumer after writing the received data to the primary storage device (e.g., see Figure 4 and paragraphs 0063-0064).

As to claim 24, Cornelius teaches the controllers at the first remote site and the second secondary controller generating a transaction report for the primary storage controller after receiving the data transmitted by the primary controller (e.g., see Figure 4 and paragraphs 0063-0064).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (703) 305-9706. The examiner can normally be reached on M-TH from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2187, Donald Sparks, can be reached for general questions concerning this application at (703) 308-1756. Additionally, the official fax phone number for the art unit is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center receptionist whose telephone number is (703) 305-3800/4700.



Reba I. Elmore
Primary Patent Examiner
Art Unit 2187

November 11, 2003